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ASSOCIATION OF OFFICIAL SEED ANALYSTS.—Will meet on dates to be announced. Secretary, John P. Helyar, New Brunswick, N. J.

SOCIETY OF AMERICAN FORESTERS.—Meets on Friday, December 29. President, Dr. B. E. Fernew, University of Toronto; secretary, C. R. Tillettson, U. S. Forest Service, Washington, D. C.

MID-WEST FORESTRY ASSOCIATION.—President, Fred W. Smith, State School of Forestry, Bistineau, N. Dak.

AMERICAN MICROSCOPICAL SOCIETY.—Business sessions. President, Professor M. F. Guyer, University of Wisconsin; secretary, Professor T. W. Galloway, Beloit College, Beloit, Wis.

AMERICAN ANTHROPOLOGICAL ASSOCIATION.—December 26 to 29. President, Dr. F. W. Hodge, Bureau of American Ethnology; secretary, Professor George G. MacCurdy, Yale University Museum, New Haven, Conn.

AMERICAN FOLK-LORE SOCIETY.—December 27. President, Dr. R. H. Lowie, American Museum of Natural History; secretary, Charles Peabody, Harvard University, Cambridge, Mass.

AMERICAN PSYCHOLOGICAL ASSOCIATION.—December 27 to 30. President, Professor Raymond Dodge, Wesleyan University; secretary, Professor R. M. Ogden, Cornell University, Ithaca, N. Y.

AMERICAN PHILOSOPHICAL ASSOCIATION.—December 27, 28 and 29. President, Professor A. O. Lovejoy, The Johns Hopkins University; secretary, Professor E. G. Spaulding, Princeton University, Princeton, N. J.

AMERICAN SOCIETY OF BACTERIOLOGISTS.—December 29. Secretary, A. P. Hitchens, Glen Olden, Pa.

AMERICAN ASSOCIATION OF ANATOMISTS.—December 27, 28 and 29. President, Dr. H. H. Donaldson, Wistar Institute of Anatomy; secretary, Professor C. R. Stockard, Cornell Medical School, New York, N. Y.

AMERICAN PHYSIOLOGICAL SOCIETY.—December 27, 28, 29 and 30. President, Professor W. B. Cannon, Harvard Medical School; secretary, Professor Charles W. Greene, University of Missouri, Columbia, Mo.

AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS.—December 27, 28 and 29. President, Professor Walter Jones, The Johns Hopkins University; secretary, Dr. Stanley R. Benedict, Cornell Medical College, New York, N. Y.

AMERICAN SOCIETY FOR PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS.—December 28, 29 and

30. President, Professor Reid Hunt, Harvard Medical School; secretary, Dr. John Auer, Rockefeller Institute, New York, N. Y.

AMERICAN SOCIETY FOR EXPERIMENTAL PATHOLOGY.—December 28, 29 and 30. President, Simon Flexner, The Rockefeller Institute; secretary, Dr. Peyton Rous, Rockefeller Institute, New York, N. Y.

*(The above four societies compose the Federation of American Societies for Experimental Biology. Executive Secretary, Dr. Peyton Rous.)*

AMERICAN NATURE-STUDY SOCIETY.—December 27. President, Professor L. H. Bailey, Ithaca, N. Y.; secretary, E. R. Downing, University of Chicago, Chicago, Ill.

SCHOOL GARDEN ASSOCIATION OF AMERICA.—December 29 and 30. President, Van Evrie Kilpatrick, 124 West 30th St., New York, N. Y.

GAMMA ALPHA GRADUATES SCIENTIFIC FRATERNITY.—Will meet on dates to be announced. President, Professor W. J. Meek, University of Wisconsin; recorder, L. C. Johnson, 2018 Madison St., Madison, Wis.

SOCIETY OF THE SIGMA XI.—December 27. President, Dr. Charles S. Howe, Case School of Applied Science; secretary, Professor Henry B. Ward, University of Illinois, Urbana, Ill.

AMERICAN ASSOCIATION OF UNIVERSITY PROFESSORS.—December 29 and 30. President, Dr. John H. Wigmore, Northwestern University; secretary, Dr. H. W. Tyler, Massachusetts Institute of Technology.

#### MEETINGS OF SECTIONS OF THE AMERICAN ASSOCIATION

As already announced, there will be a symposium "On the Structure of Matter" in a joint meeting of Sections B and C of the American Association for the Advancement of Science, the American Chemical Society, and the American Physical Society, on Wednesday, December 27, 10 A.M. and 2 P.M., in Room 309, Havemeyer Hall, Columbia University. The topics and speakers, arranged for to date, follow:

"Radiation and Atomic Structure," by Robt. A. Millikan. (The address of the president of the American Physical Society.)

"The Atom and Chemical Valence," by Gilbert N. Lewis. Address of the chairman of the section.

"Molecular Resonance and Atomic Structure," by Robt. W. Wood.

"The Relations of Magnetism to the Structure of the Atom," by Wm. J. Humphreys.

"The Relations of Magnetism to Molecular Structure," by Albert P. Wills.

"The Evolution of the Elements as Related to the Structure of the Nuclei of Atoms," by Wm. D. Harkins.

"Electromerism, a Case of Chemical Isomerism Resulting from a Difference in Distribution of Valence Electrons," by Lauder W. Jones.

It is planned to secure speakers to open the discussion; but, as the whole day is to be devoted to this question, it is hoped that others will come prepared to contribute.

The program of meetings of Section D—Engineering—for the New York meeting is as follows:

10.00 A.M., Thursday, December 28, Room 402 Engineering Building, Columbia University. Session for presentation of research papers in various fields of engineering. Presiding officer, Dr. Henry M. Howe.

2.00 P.M., Thursday, December 28, Assembly Hall, Automobile Club of America, 247 West 54th Street. Joint session of Section D with Society for the Promotion of Engineering Education, the National Highways Association, the National Automobile Chamber of Commerce, and the Automobile Club of America. Subject: "Highway Engineering Instruction in Civil Engineering Curricula." Presiding officer, Dr. Hollis Godfrey, first vice-president, Society for the Promotion of Engineering Education.

8.00 P.M., Thursday, December 28, Assembly Hall, Automobile Club of America. Joint session of Section D with the National Highways Association, Citizens' Street Traffic Committee of Greater New York, and the Automobile Club of America. Subject: "Research Papers in Highway Engineering." Presiding officer, Dr. Henry M. Howe.

8.30 P.M., Friday, December 29. Auditorium, United Engineering Societies Building, 29 West 39th Street. Joint session of Section D with the American Society of Civil Engineers, American Society of Mechanical Engineers, American Institute of Electrical Engineers and American Institute of Mining Engineers. Presiding officer, Dr. Henry M. Howe, introduced by the president of

the Engineering Foundation, Dr. Gano Dunn. Address by retiring vice-president, Dr. Bion J. Arnold. Addresses by representatives of the National Engineering Societies re Interrelationship of Engineering and Pure Science. Meeting to be followed by a reception tendered to the American Association for the Advancement of Science by the National Engineering Societies.

Section G—Botany—will hold a joint meeting with the Botanical Society of America and the American Phytopathological Society in the auditorium of Horace Mann School, Broadway and 120th Street, on Wednesday, December 27, at 2:00 P.M., when the program will be as follows:

"Geographical Distribution of the Marine Algae" (vice-presidential address), by W. A. Setchell.

Symposium on Relations of Chemistry to Botany:

"The Service of Chemistry to Botany," by C. L. Alsberg. (Discussion introduced by H. M. Richards.)

"Antagonism and Permeability," by W. J. V. Osterhout. (Discussion introduced by H. M. Benedict.)

"Physical Chemistry in the Service of Phytogeography," by J. A. Harris. (Discussion introduced by B. E. Livingston.)

The symposium will be followed by a short business meeting of Section G. The members of Sections G and F are invited by the New York Zoological Society to a reception and smoker to be held at the New York Aquarium, Battery Park, Wednesday evening, December 27.

Section L—Education—will hold its meetings at Teachers College, on December 27, 28 and 29. The program of fifty papers dealing with the scientific study of educational problems in many different fields of school work should prove attractive to superintendents, teachers and students of education. Many persons well known for their educational work will contribute to the program. Professor E. L. Thorndike will discuss "The Reliability of Certain Educational Tests"; Dr. Abraham Flexner, of the General Education Board, will speak on the work of the board; Frank G. Gilbreth and Lillian Moller Gilbreth, leaders in the application of micro-motion study to

problems of industrial education will report the effect of auto micro-motion study on educational methods in teaching typewriting and manual training; Professor Earl Clarke, of the Russell Sage Foundation, will present a paper on "The Relationship between the Indebtedness of City School Systems and Current Expenditures for the Operation and Maintenance of Schools." The names of Goddard, Rapeer, Heck, Trabue, Merriam, Mead, Kelly and many others well known for their contributions to current educational literature and methods, serve to indicate that those attending the meetings of Section L will be well repaid for their trouble. Sessions of the section will be held each morning and afternoon on Wednesday, Thursday and Friday. The Friday morning session will be a joint meeting with the American Psychological Association. The address of the retiring vice-president, Elwood P. Cubberley, of Leland Stanford Junior University, will be on Thursday afternoon.

#### SCIENTIFIC NOTES AND NEWS

MEMBERS of the American Association for the Advancement of Science whose dues are paid later than January 1, will receive the back numbers of SCIENCE only on payment of one cent a number to cover the extra cost of mailing. It can not be guaranteed that the copies will be supplied, as, owing to the extraordinary increase in the cost of paper, only so many extra copies will be provided as are likely to be needed. The offices of the permanent secretary of the association and of SCIENCE will be greatly assisted by the prompt payment of dues.

DR. HUGO MÜNSTERBERG, distinguished psychologist and author, professor of psychology and director of the psychological laboratory of Harvard University, died suddenly while lecturing to a class on December 16. Professor Münsterberg was born in Danzig in 1863 and was called from Freiburg to Harvard University in 1892.

THE public lectures of the approaching meeting of the American Association for the Advancement of Science will be given by Dr.

Simon Flexner, director of the laboratories of the Rockefeller Institute for Medical Research, and by Dr. A. A. Noyes, professor of physical chemistry at the Massachusetts Institute of Technology. Dr. Flexner's lecture on "Infantile Paralysis and the Public Health" will be given at Columbia University at five o'clock on the afternoon of Thursday, December 28. Professor Noyes's lecture on "Nitrogen and Preparedness," will be given on the evening of the same day at the American Museum of Natural History.

MR. THEODORE ROOSEVELT will make the principal address at the opening of the New York State Museum at Albany on the evening of December 29, his subject being "Productive Scientific Scholarship." Among those who will make addresses at the afternoon exercises are Dr. John H. Finley, president of the University of the State of New York; Dr. Charles D. Walcott, secretary of the Smithsonian Institution, and Dr. John M. Clarke, director of the State Museum.

THE Bruce gold medal of the Astronomical Society of the Pacific for the year 1917 has been awarded to Professor E. E. Barnard, of the Yerkes Observatory, for his distinguished services to astronomy. The formal presentation will take place at the annual meeting of the society at San Francisco, on the evening of January 27. This is the fourteenth award of the medal.

THE 1917 meeting of the Pacific Division of the American Association for the Advancement of Science will be held at Stanford University, California, between the dates of April 4 and 7. It is anticipated that Thursday and Friday, April 5 and 6, will become the principal days for meetings of the several Pacific coast societies which will participate in this occasion. Further announcements concerning the meetings, railroad rates and excursions will be made later.

FIFTEEN members of the American Association for the Advancement of Science residing in the city of Rochester, N. Y., held a meeting recently and organized the Rochester Branch of the association. The executive committee consists of H. L. Fairchild, chair-